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This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A method for detecting the presence of a biopolymer, comprising:
   (a) adding a metal to a biopolymer;
   (b) positioning the biopolymer in a nanopore in a substrate; and
   (c) ramping a voltage source across the nanopore in the substrate to produce a detectable signal.

2. (Original) A method as recited in claim 1, wherein said metal for doping said biopolymer is selected from the group consisting of zinc, nickel and cobalt.

3. (Currently Amended) An apparatus ~~as recited in claim 1~~ comprising a substrate having at least one nanopore, a conductive biopolymer positioned in the at least one nanopore; and at least two electrodes positioned to apply a voltage across the nanopore~~, wherein said biopolymer is conductive~~.

4. (Currently Amended) An apparatus as recited in claim [[1]] 3, wherein the biopolymer is a double stranded oligonucleotide.

5. (Original) A method for detecting the presence of an oligonucleotide, comprising:
   (a) hybridizing a first oligonucleotide to a second oligonucleotide;
   (b) adding a metal to the hybridized oligonucleotides to form an initial complex; and
   (c) applying a ramped voltage to the initial complex to produce a detectable signal.

6. (Original) A method as recited in claim 5, wherein the metal added in step (b) is selected from the group consisting of zinc, cobalt and nickel.

7. (Original) A method as recited in claim 5, wherein said biopolymer is a nucleic acid.

8. (Original) A method as recited in claim 7, whercin said nucleic acid is selected from the group consisting of RNA, DNA, aptamers and their derivatives.

9. (Original) A method as recited in claim 5, wherein a plurality of metal is added to said initial complex.

10. (Original) A method as recited in claim 5, wherein a plurality of different metals are added to said initial complex.

11. (Original) A method as recited in claim 5, wherein said initial complex is conductive.

12. (New) The apparatus of claim 3, wherein said nanopore is designed to translocate a biopolymer.

13. (New) The apparatus of claim 3, wherein said nanopore comprises a diameter from about 1nm to about 300nm.

14. (New) The apparatus of claim 13, wherein said nanopore comprises a diameter from about 2nm to about 20nm.

15. (New) The apparatus of claim 3, wherein said nanopore is formed by a process selected from the group consisting of argon ion beam sputtering, etching, and photolithography.

16. (New) The apparatus of claim 3, wherein said nanopore passes through said substrate.

17. (New) The apparatus of claim 3, wherein the substrate comprises a mesh layer.

18. (New) The apparatus of claim 3, wherein the substrate comprises a wire.

19. (New) The apparatus of claim 3, wherein the substrate comprises a material selected from the group consisting of silicon, silica, a solid-state material, a carbon based material, a plastic, a metal, and blends or alloys thereof.

20. (New) The apparatus of claim 3, wherein the substrate comprises more than one layer.

21. (New) The apparatus of claim 3, wherein the nanopore passes through at least one of said first and second electrodes.

22. (New) The apparatus of claim 3, wherein said nanopore is defined by the space between said first and second electrodes.

23. (New) The apparatus of claim 3, wherein at least one of said first and second electrodes are curved.

24. (New) The apparatus of claim 3, wherein at least one of said first and second electrodes are in the shape of a ring.

25. (New) The apparatus of claim 3, wherein the said first and second electrodes are disposed in a side-by-side configuration.

26. (New) The apparatus of claim 3, wherein said at least two electrodes comprise a material which is selected from the group consisting of tin, copper, zinc, iron, magnesium, cobalt, nickel, vanadium, and alloys thereof.

27. (New) The apparatus of claim 3, wherein said at least one of said first and second electrodes are deposited on the surface of the substrate.